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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/752,848	12/29/2000	Eric C. Honea	IL-10507	1079

7590

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EXAMINER

NGUYEN, TUAN M

ART UNIT PAPER NUMBER

2828

DATE MAILED: 04/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n No.

09/752,848

Applicant(s)

HONEA ET AL.

Examin r

Tuan M Nguyen

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-- The MAILING DATE of this communicati n appears on the c ver sheet with th correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 October 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.



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Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding to claim 1, the claim recites a laser constructed to control amplified spontaneous emission and/or parasitic light. It is not clear whether a laser or a laser device constructed to control amplified which render the claim confusing, vague and indefinite. The claim also recites a laser gain medium having certain polished surface that **are used** to transport pump light by internal reflection throughout said laser gain medium. Since it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987). Further the claim recites a layered coating **on at least certain** of said polished surface that are used to transport pump light by internal reflection of said laser gain medium. **On at least certain** is not proper English language. Furthermore the claim recites said layered having a reflective inner material and an absorptive or scattering outside material and configured to **substantially reflect** the pump light that strikes the coating so as to direct the pump light back into said laser gain medium. The material is either reflective on non reflective. It is not clear what is **substantially reflect** meant.

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In addition, the claim recites substantially transmit amplifier spontaneous emission and/or parasitic light that strikes the coating so as to let this light strike said outside material of said layered coating where **it is** either scattered or absorbed. It is not clear as what **"it is"** is meant in the claim which render the claim confusing, vague and indefinite.

Regarding to claims 6 and 7, the claims recite a laser gain elements having smooth surface other than **those through which** the laser light is intended to enter or exit the gain element. It is not clear as what **"those through which"** is meant in the claims, which render the claims confusing, vague and indefinite. Claim 6 also recites an optical coating applied to said smooth surface wherein said smooth surfaces serve to substantially reflect pump light that is introduced into **the sample** and so keep the pump light confined within laser gain medium. It is no antecedent base for **the sample**. The claims further recite said applied optical coating **designed to preferentially** transit amplified spontaneous emission and parasitic light out of said laser gain element and into said optical coating, and the outer surface of said optical **designed to substantially** scatter or absorb the radiation that reaches said surface so as to prevent it from re-entering the laser gain medium. It is a design choice, which render the claims confusing, vague and indefinite. Further claim 7 recites said smooth surface which are in contact with the applied optical coating serve to substantially reflect pump light that is introduced into the gain element and so keep pump light confined within the gain element and wherein said applied optical coating is designed to preferentially transmit amplified spontaneous emission and parasitic light out of the gain element and into the coating and the outer surface of the applied optical coating is designed to substantially scatter or absorb the radiation that reaches that surface so as to prevent it from re-entering the laser gain medium. It is the functional language of using or

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operating the gain medium instead of producing or manufacturing of the laser gain element, which render the claims confusing, vague and indefinite.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 5-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Injeyan et al ('297).

With respect to claims 1 and 5-7, Injeyan et al disclose a laser gain medium (22) having certain polished surface that are used to transport pump light by internal reflection throughout said laser gain medium, the light sources (24, 26) directing laser pump light into said laser gain medium, a layered coating (41, 43), evanescent wave coating (48), note col. 2 line 53 to col. 4 line 61, see fig. 1.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 2-4 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Injeyan ('297) in view of Feng et al ('468) further in view of Connors et al ('555).

With respect to claims 2-4 and 8, Injeyan et al disclose all limitations as set forth in claims 1 and 6-7. however Injeyan et al do not disclose the powered BaSO₄ and an absorbing film such as Ge. Whereas Feng et al disclose germanium (Ge), note col. 3 and Connors et al disclose the BaSO₄ material on col. 3. For the advantageous of the diffuse reflectance material , it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Injeyan et al with the Ge and BaSO₄ material as taught or suggested by Feng and Connors.

Response to Arguments

4. Applicant's arguments with respect to claims 1-8 have been considered but are moot in view of the new ground(s) of rejection.

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Citation Of The Pertinent References

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The patent Zapata (US patent 5,335,237) discloses parasitic oscillation suppression in solid-state lasers using absorbing thin films.

The patent Tajima et al (US patent 5,239,549) disclose composite slab laser medium and a laser employing the composite slab laser medium.

Communication Information

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan M Nguyen whose telephone number is (703) 306-0247.

The examiner can normally be reached on 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (703) 308-3098. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3329.



Paul Ip
SPE
Art unit 2828

TMN
March 26, 2003